UNITED STATES PATENT AND TRADEMARK OFFICE

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10/799,526	03/11/2004	Aram Lindahl	APL1P306/P3270	8495

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EXAMINER
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ART UNIT	PAPER NUMBER
2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/799,526	LINDAHL ET AL.
	Examiner	Art Unit	
	FATIMAT O. OLANIRAN	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 April 2009</u>.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>30-53</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>30-53</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 30-39, and 41-52 rejected under 35 U.S.C. 103(a) as being unpatentable over King et al (7123728).

Claim 30, King discloses method performed by a portable device capable of playing media items, the method (Fig. 3 and col. 3 line 18-30 and col. 3 line 52-67 and col. 4 line 22-25) comprising: receiving a media item and n-band graphic equalizer setting values associated with the media item from a host device, (Fig. 3-4 col. 4 line 22-38); and generating m filters to approximate the n-band graphic equalizer settings, where m is less than n, by: identifying a plurality of filter patterns in a composite frequency response shape representing the n-band graphic equalizer setting values, each filter pattern corresponding to a predetermined filter type from a set of filter types (Fig. 4-8 and col.4 line 52-67 and col. 6 line 30-41); for each identified filter pattern, creating a plurality of filters by creating a filter of the predetermined filter type corresponding to the identified filter pattern; determining parameters for each of the plurality of filters such that the plurality of filters approximates the composite frequency response shape representing the n-band graphic equalizer setting values; assigning a priority to each of the plurality of filters; and limiting the number of the plurality of filters to not more than m

based on the priority assigned to each of the plurality of filters (Fig. 4-8 and col.4 line 52-67 and col. 6 line 30-41).

King does not explicitly disclose wherein the host device has greater computational resources than the portable device.

However King discloses computers of various computational resources, various connectivity options (Fig. 3-4 and col. 4 lines 22-38, col. 3 lines 30-67).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of King with various computers in order to have a versatile system.

Claim 31 analyzed with respect to claim 30, King discloses wherein the set of filter types comprises a low-shelf filter, a high-shelf filter, and a parametric filter (Fig. 4-8 and col. 6 lines 30-41).

Claim 32 analyzed with respect to claim 30-31, King discloses wherein identifying the plurality of filter patterns in the composite frequency response shape representing the n-band graphic equalizer setting values comprises identifying at most one low-shelf filter pattern, at most one high-shelf filter pattern, and one or more parametric filter patterns in the composite frequency response shape representing the n-band graphic equalizer setting values (Fig. 4-8 and col. 5 lines 60-67 and col. 6 lines 1-4, col. 6 lines 30-41).

Claim 33 analyzed with respect to claim 30, King discloses playing the media item using the not more than m filters (Fig. 4-8 and col. 4 line 52-55).

Claim 34 analyzed with respect to claim 30, King discloses further comprising determining that the n-band graphic equalizer setting values associated with the media item have changed (Fig. 4-8 and col. 5 lines 1-67).

Claim 35 analyzed with respect to claim 34, 30, King discloses further comprising receiving changed n-band graphic equalizer setting values to be associated with the media item from a user interface of the portable media device (Fig. 4-8 and col. 5 lines 1-67).

Claim 36 analyzed with respect to claims 34-35, 30, King discloses further comprising associating the changed n-band graphic equalizer setting values with the media item (Fig. 4-8 and col. 5 lines 1-67).

Claim 37, analyzed with respect to claims 34-35, 30, King discloses further comprising, in response to receiving the changed n-band graphic equalizer settings, generating a second set of m filters to approximate the changed n-band graphic equalizer setting (Fig. 4-8 and col. 4 line 50-67 and col. 5 lines 1-67).

Claim 38 analyzed with respect to claim 30, 34-35, 37 King discloses, wherein generating the second set of m filters comprises: identifying a plurality of filter patterns in a composite frequency response shape representing the changed n-band graphic equalizer setting values, each filter pattern corresponding to a predetermined filter type from the set of filter types (Fig. 4-8 and col. 5 lines 1-67) creating a plurality of filters by, for each identified filter pattern, creating a filter of the predetermined filter type corresponding to the identified filter pattern; determining parameters for each of the plurality of filters such that the plurality of filters approximates the composite frequency response shape representing the changed n-band graphic equalizer setting values; assigning a priority to each of the plurality of filters; and limiting the number of the plurality of filters to not more than m based on the priority assigned to each of the plurality of filters (Fig. 4-8 and col. 4 line 52-67 and col. 6 line 30-41).

Claim 39 analyzed with respect to claim 30, 34-35, 37 King discloses, wherein determining that the n-band graphic equalizer setting values associated with the media item have changed and generating the second set of m filters are performed during the playing of the media item (Fig. 4-8 and col. 5 line59-67 and col. 6 line 1-4).

Claim 41, King discloses a portable media device comprising: a communications module to receive a media item from a host computer (Fig. 3 and col. 3 line 18-30 and col. 3 line 52-67 and col. 4 line 22-25) and to further receive equalizer setting

information from the host computer , the equalizer setting information being associated

with the media item; a data store for storing the media item and the associated equalizer

setting information received from the host computer; and a processor operatively

connected to the data store (Fig. 3 and col. 3 line 52-67 col. 4 line 22-38), wherein the

processor operates to

acquire equalizer setting values based on the equalizer setting information, to

approximate the equalizer setting values with a reduced filter order approximation, and

to present the media item in accordance with the reduced filter order approximation,

wherein the processor approximates the equalizer setting values with a reduced filter

order approximation by: identifying a plurality of filter patterns in a composite frequency

response shape representing the equalizer setting values, each filter pattern

corresponding to a predetermined filter type from a set of filter types (Fig. 4-8 and col.4

line 52-67 and col. 6 line 30-41); creating a plurality of filters by, for each identified filter

pattern, creating a filter of the predetermined filter type corresponding to the identified

filter pattern; determining parameters for each of the plurality of filters such that the

plurality of filters approximates the composite frequency response shape representing

the equalizer setting values; assigning a priority to each of the plurality of filters; and

limiting the number of the plurality of filters to not more than a predetermined number

allowed by the portable media device based on the priority assigned to each of the

plurality of filters (Fig. 4-8 and col. 4 line 52-67 and col. 5 line 1-67).

King does not explicitly disclose a host computer having greater computational

resources than the portable media device,

However King discloses computers of various computational resources, various

connectivity options (Fig. 3-4 and col. 4 lines 22-38, col. 3 lines 30-67).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the method of King with various computers in order to have a

versatile system.

Claim 42 analyzed with respect to claim 41, King discloses further to generate an

analog output signal representing the media item in accordance with the reduced filter

order approximation (Fig. 3 and col. 4 line 22-36 and col. 8 line 57-65).

King does not explicitly disclose comprising a coder/decoder (CODEC) to receive the

presentation of the media item. However King discloses a computer processor and

various inputs and audio output (Fig. 3 and col. 8 lines 56-65). Examiner takes Official

notice on the limitation coder/decoder, coder/decoders are well known in the art at the

time of the invention. In addition it would have been obvious to one of ordinary skill in

the art at the time of the invention that the computer system of King includes a codec in

order to process various inputs.

Claim 43 analyzed with respect to claim 41-42, King discloses, further comprising a

speaker coupled to the CODEC, wherein the speaker converts the analog output signal

to sound, wherein the sound is substantially similar to sound produced when the media

item is played on the host computer in accordance with the equalizer information

associated with the media item (Fig. 3-4 and col. 8 lines 56-65).

Claim 44 analyzed with respect to claim 41, King discloses, wherein the equalizer

setting information associated with the media item received from the host computer is

configured to be used by host computer to present the media item, the equalizer setting

information being related to a graphic equalizer for the purpose of implementing a

graphic equalizer on the portable device (Fig. 3-4 and col. 4 line 22-37).

King does not explicitly disclose requiring greater computational resources than

available from the processor of the portable media device.

However King discloses computers of various computational resources, and various

connectivity options (Fig. 3 and col. 3 line 19-30 and col. 3 line 52-67 and col. 4 line 1-

2).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the method of King with various computers in order to have a

versatile system.

Claim 45, King discloses a computer-readable medium having stored thereon data

representing instructions that, when executed by the processor of a portable device

capable of playing media items, cause the processor to perform operations (Fig. 3

abstract and col. 4 line 22-37) comprising: receiving a media item and n-band graphic

equalizer setting values associated with the media item from a host device, and

generating m filters to approximate the n-band graphic equalizer settings, where m is less than n, by: identifying a plurality of filter patterns in a composite frequency response shape representing the n-band graphic equalizer setting values, each filter pattern corresponding to a predetermined filter type from a set of filter types (Fig. 3-4 and col. col. 4 line 52-67); creating a plurality of filters by, for each identified filter pattern, creating a filter of the predetermined filter type corresponding to the identified filter pattern; determining parameters for each of the plurality of filters such that the plurality of filters approximates the composite frequency response shape representing the n-band graphic equalizer setting values; assigning a priority to each of the plurality of filters; and limiting the number of the plurality of filters to not more than m based on the priority assigned to each of the plurality of filters (Fig. 4-8 and col. 4 line 52-67 and col. 5 line 1-67)

King does not explicitly disclose wherein the host device has greater computational resources than the portable device;

However King discloses computers of various computational resources, various connectivity options (Fig. 3-4 and col. 4 lines 22-38, col. 3 lines 30-67).
Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of King with various computers in order to have a versatile system.

Claim 46 analyzed with respect to claim 45, King discloses wherein the set of filter types comprises a low-shelf filter, a high-shelf filter, and a parametric filter (Fig. 4-8 and col. 6 lines 30-41).

Claim 47 analyzed with respect to claim 45-46, King discloses wherein the processor identifies the plurality of filter patterns in the composite frequency response shape representing the n-band graphic equalizer setting values by identifying at most one low-shelf filter pattern, at most one high-shelf filter pattern, and one or more parametric filter patterns in the composite frequency response shape representing the n-band graphic equalizer setting values (Fig. 4-8 and col. 4 line 53-67 and col. 6 line 30-41).

Claim 48 analyzed with respect to claim 45, king discloses, further comprising playing the media item using the not more than m filters (Fig. 4-8 and col. 4 line 53-55).

Claim 49 analyzed with respect to claim 48, 45, King discloses, wherein the instructions further cause the processor to determine that the n-band graphic equalizer setting values associated with the media item have changed and receiving changed n-band graphic equalizer setting values to be associated with the media item from a user interface of the portable media device (Fig. 4-8 and col. 5 line 60-67 and col. 6 line 1-4).

Claim 50 analyzed with respect to claim 48-49, 45, King discloses wherein the
instructions further cause the processor to associate the changed n-band graphic
equalizer setting values with the media item (Fig. 4-8 and col. 5 line 60-67 and col. 6
line 1-4).

Claim 51 analyzed with respect to claim 48-50, 45, King discloses , wherein the
instructions further cause the processor to, in response to receiving the changed n-band
graphic equalizer settings, generate a second set of m filters to approximate the
changed n-band graphic equalizer settings (Fig. 4-8 and col. 5 line 60-67 and col. 6 line
1-4).

Claim 52, analyzed with respect to claim 48-51, 45, King discloses wherein determining
that the n-band graphic equalizer setting values associated with the media item have
changed and generating the second set of m filters are performed during the playing of
the media item (Fig. 4-8 and col. 5 line 60-67 and col. 6 line 1-4).

3.   Claims 40 and 53 rejected under 35 U.S.C. 103(a) as being unpatentable over
King et al (7123728) in view of Montag et al (7409066).
Claim 40 analyzed with respect to claim 30, King does not explicitly disclose wherein
the plurality of filters comprise second order recursive filters.
Montag discloses second order recursive filters (col. 3 lines 56-67).

Therefore it would have been obvious to one of ordinary skill in the art a the time of the

invention to use second order recursive filters in the equalizer of King in order to have a

well known digital filter to integrate with other circuits.

Claim 53 recites all the limitations of claim 40.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to FATIMAT O. OLANIRAN whose telephone number is

(571)270-3437. The examiner can normally be reached on M-F 10:00-6 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FO

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2614